IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1941.

NO. .....

EDWIN L. WIEGAND COMPANY AND
EDWIN L. WIEGAND,
Petitioners,

vs.

HAROLD E. TRENT COMPANY AND
HAROLD E. TRENT,
Respondents.

BRIEF IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

OPINIONS IN THE COURTS BELOW

The original opinion of the District Court is reported at 39 USPQ 158, and appears at R. 23-32.

The opinion of the District Court on rehearing is reported at 43 USPQ 149, and appears at R. 48-56.

The opinion of the Circuit Court of Appeals is reported at 122 F. (2d) 920 and 50 USPQ 243, and appears at R. 60-68.

GROUNDS OF JURISDICTION

Stated in the Petition.

STATEMENT OF THE CASE

Stated in the Petition.

SPECIFICATION OF ERRORS

Petitioners believe that the Circuit Court of Appeals erred:

1. In holding that the invention alleged is for the envelopment and insulation of a wire resistor by a cement-like or porcelain refractory material.

2. In construing the Luftfahrzeugbau French patent 517,311, the Muller Swiss patent 83,457, and the Muller British patent 140,738, as disclosing the invention except only for the substitution of the precise material.

3. In holding that the only escape from anticipation must lie in the substitution of the precise material.

4. In not holding that the improvement was not obvious to those skilled in the art, and involved invention.

5. In holding the claims in suit invalid, particularly for want of invention over the three foreign patents.

6. In not holding the claims in suit valid.

SUMMARY OF ARGUMENT

1. The holding of invalidity is in conflict with the prevailing recognition of the invention and the judgment of a court of another circuit.

2. The holding of invalidity is predicated on an interpretation of the invention in conflict with applicable decisions of this Court.

3. The holding of invalidity is predicated on assumptions of disclosure by the three foreign patents in conflict with applicable decisions of this Court.

4. The holding of invalidity is in conflict with applicable decisions of this Court that an improvement that was not obvious to those skilled in the art is invention.

ARGUMENT

1. The holding of invalidity is in conflict with the prevailing recognition of the invention and the judgment of a court of another circuit.

The electrical heating elements described and claimed in the patent in suit largely superseded the various types of electrical heating elements theretofore in use. (R. 115.) Also they opened new field for electrical heating elements. (Exhibit M-4, R. 207, offered at R. 131.) They attained and have enjoyed marked commercial success. (R. 72-73.)

They were accorded the tribute of imitation, yet after the grant of the patent the infringers discontinued, on notice of the patent. (R. 173-175.) Manufacturers of prior types of electrical heating elements, requiring the elements of the patent, have purchased from petitioners. (R. 174.) Respondents advised such notices. (Exhibits C-54 and C-64, R. 206A and 206B, offered at R. 131.)

Respondents devised their elements with the intention of avoiding infringement, and challenged validity only after suit had been filed, and from the grant of the patent the validity of any claim of the patent has been challenged in only one other instance, and then under similar circumstances. In 1931 the Cutler-Hammer Company began the manufacture of elements also intended to avoid infringement, and petitioners brought suit, and then the defendants in that suit likewise contested both validity and infringement.

In that suit, in the District Court of the United States for the Northern District of Ohio, the claims were held valid, although the Cutler-Hammer elements were held not to infringe. (Exhibit D-68, R. 225-226, offered at A-94; affirmed on appeal, but without passing on the holding of ~~infringement~~ validity, Exhibit D-69, R. 226-232, offered at A-94; certiorari denied, 308 U. S. 627, 60 S. Ct. 386.)

The present holding of invalidity is in conflict with the recognition of the patent by the industry generally, with the prior recognition by respondents, and with the judgment, *by a court in another circuit,* in the only other instance in which the validity of any claim of the patent has been challenged.

2. The holding of invalidity is predicated on an interpretation of the invention in conflict with applicable decisions of this Court.

The holding of invalidity is predicated on the premise (R. 62, at the outset of the consideration of the validity of this patent 1,614,330):

> The invention alleged is for the envelopment and insulation of a wire resistor by a cement-like or porcelain refractory medium.

Claim 1 of the patent, for example, states the invention as follows (R. 198, and including the limitations by disclaimer, R. 201-202, and italics added):

> 1. As a new article of manufacture, an electrical heating element consisting of a resistor, *a formed sheet metal sheath enveloping said resistor and spaced therefrom,* the sheath surrounding the resistor being relatively thin and wide in cross section and constituting a surface of relatively large area for the transfer of the heat from the element but defining a relatively shallow cavity of relatively small capacity, the resistor being arranged in a formation correspondingly relatively thin and wide in cross section, and a mass of *compacted granular refractory electrical insulating material of high heat conducting quality filling the space between the resistor and the sheath,* at least part of said material being integrated into formation positively spacing the resistor from the sheath, the resistor being provided with ter-

> minals each accessible through an opening in the sheath.

Obviously the interpretation of the invention on which the holding of invalidity is predicated, is quite different from the invention as defined by the claims, yet as stated in *Motion Picture Patents Company v. Universal Film Manufacturing Company et al.*, 243 U. S. 502 at 510, 37 S. Ct. 416 at 418:

> It is to the claims of every patent, therefore, that we must turn when we are seeking to determine what the invention is, * * *.

And as stated in *Fay and others v. Cordesman and others*, 109 U. S. 408 at 420-421, 3 S. Ct. 236 at 244:

> The claims of the patent sued on in this case are claims for combinations. In such a claim, if the patentee specifies any element as entering the combination, * * * the court cannot declare it to be immaterial.

Under the interpretation, it would not be necessary to resort at all to the three foreign patents on which the Circuit Court of Appeals relies, but the invention would be directly anticipated even by such entirely different devices as those shown for example in figures 5 and 6 of the Delany patent 554,910. (R. 236, part of Exhibit 41, offered at R. 90.)

The interpretation of the invention is improper, and the departure of the interpretation is substantial and material.

3. The holding of invalidity is predicated on assumptions of disclosure by the three foreign patents in conflict with applicable decisions of this Court.

The consideration of the patent by the Circuit Court of Appeals continues (R. 62-63, omitting footnotes):

> The patent (French) to Luftfahrzeugbau discloses a heating unit "bedded in electrically insulating material." Two patents (British and Swiss) to Muller disclose "a resistance wire wound on a heat-proof insulating plate." The only escape from anticipation must therefore lie in the substitution of the precise material.

Referring again to claim 1 for example, it requires specifically (R. 198, including the limitations by disclaimer, R. 201-202):

> and a mass of compacted granular refractory electrical insulating material of high heat conducting quality filling the space between the resistor and the sheath, at least part of said material being integrated into formation positively spacing the resistor from the sheath, * * *.

The limitation to *granular refractory material* relates to the admitted substitution of the precise material. However, each of the three foreign patents fails also in other respects.

Any conclusion that the Muller patents disclose any sort of insulating material filling the space between the resistor and the sheath, is entirely unsupported by anything in the patents. (R. 315-324, parts of Exhibit D-42, offered at R. 90-91.) In fact, the evidence is directly to the contrary.

During the course of the rehearing respondents agreed (R. 185):

> that Muller did construct and put on the market devices substantially in the form of the patent drawings, in which the insulating material used was mica, and that Exhibit W-78 is one of such devices, that the instruction sheet offered in evidence, Exhibit W-79, is one of the instruction sheets which

> Muller packed with his devices when they were sold, and that the translation Exhibit W-80 is a correct translation of the sheet Exhibit W-79, * * *.

The evidence went further, but subsequently respondents moved to strike portions of the evidence, and the motion was granted, and while petitioners believe that the motion should have been denied, and have preserved their objection, reference to that phase of the situation at this time is not necessary.

Exhibit W-78 (physical, offered at R. 159) entirely confirms the testimony of petitioner Edwin L. Wiegand (admitted to be an eminent expert in the electrical heating art, R. 92), that the core plate and layers 4 of the Muller patents were mica, and that the element of the Muller patents was of the typical mica construction. (R. 97-98.)

However, in the mica heaters the insulating material does not fill the space between the resistor and the sheath. Even if the mica traverses generally around the edge (as it does not in Muller) it does not fill that space, and can abstract heat from but two line points of a round resistor, or two flat or flattish sides of a flat resistor, and none from the edges, which are not in contact. Further, it is extremely difficult to maintain any degree of contact; after some use, involving expansion and contraction, the contact is only nominal, at points. (R. 117.)

Further, this distinction is not trivial. It is the outstanding reason why the elements of the patent have largely superseded the mica heaters. (R. 119.)

The Luftfahrzeugbau patent likewise is silent as to the insulating material proposed to be employed. (R. 313-314A, part of Exhibit D-42, offered at R. 90-91.) Apparently the device was never on the market. (R. 153.) There is some indication that the patentee proposed to employ clay. (R. 153.) Mr. Wiegand was of the opinion that the patent intended merely another mica heater (R. 98):

> or else the disclosure is entirely inadequate to enable one skilled in the art, as the art was at that time especially, to construct the element, or to have any idea even as to what the element was supposed to be, or how the element was supposed to be produced, or the disclosure carried into effect.

Under the circumstances, *any conclusion that the Luftfahrzeugbau patent discloses any of the requirements of the above quoted portion of the claim, certainly is sheer speculation.*

Further, the fact of the patents is no indication that any of them disclosed anything new or novel. As to Muller, the Swiss Patent Office makes no examination on the merits, the British Patent Office does, and the so-called Muller British patent in fact is an application laid open to inspection, on which patent was not granted. As to Luftfahrzeugbau, the French Patent Office likewise makes no examination on the merits, the German Patent Office does, Luftfahrzeugbau was a German corporation, and there is no corresponding German patent. (R. 149-151.)

However, as was said in *Hanifen v. E. H. Godshalk Co. et al.*, 84 F. 649 at 651 (C. C. A. 3):

> Now, it is a well-settled and familiar doctrine that an invention patented here is not to be defeated by a prior foreign patent unless its descriptions or drawings contain or exhibit a substantial representation of the patented invention in such full, clear, and exact terms as to enable any person skilled in the art or science to which it appertains, without the necessity of making experiments, to practice the invention.

Citing *William H. Seymour et al. v. David M. Osborne et al.*, 11 Wall. 516 at 555. (20 L. Ed. 33 at 42.)

The conclusion that "The only escape from anticipation must therefore be in the substitution of the precise

material," is predicated on assumptions of disclosure by the foreign patents in conflict with applicable decisions, and fails.

4. The holding of invalidity is in conflict with applicable decisions of this Court that an improvement that was not obvious to those skilled in the art is invention.

The consideration of the patent by the Circuit Court of Appeals continues and concludes (R. 63, omitting the footnote):

> We are in accord with the learned district judge in his view that the use of such material for analogous purposes was extensive and well-known.

In fact petitioners elicited, on direct examination of the witness Siebs, that all of the components of the electrical heating element of the patent in suit were known and in use at least as early as 1910. (R. 160, 161.)

The deficiencies of the mica heaters were recognized, not only as early as 1910, but prior to 1910. (R. 160.) Anything additional that may be disclosed in the Luftfahrzeugbau patent, was known in the Minchew patent 563,780, in 1896. (R. 239-241, part of Exhibit D-41, offered at R. 90.)

In the period 1910 through 1922, the art was extremely active, in an endeavor to find a satisfactory electric heating element. (R. 160-161.) At least 750 United States patents on electrical heating devices issued on applications filed during that period, including 52 to General Electric Company, 37 to Cutler-Hammer Company, 38 to Westinghouse Company, and 221 to other manufacturers that were active in the art. (R. 175-176.)

Yet it remained for Wiegand to solve the problem, in 1923, and then the solution was rejected as incredible.

The plan was to market the elements through companies already in the market, and first the Wiegand Com-

pany approached the Cutler-Hammer Company, who were making and selling mica heaters. Mr. Edwin Lightfoot, the head of the Heating Engineering Department, called on Mr. Wiegand, and the matter was discussed. Mr. Lightfoot said to Mr. Wiegand "Do you mean to say that you can make a strip of that stuff there two feet long or more and just about a quarter of an inch thick, that would be light enough for us to sell? Why, it would break, it would break in two like a piece of porcelain." (R. 171-172.)

The Cutler-Hammer Company rejected the improvement as incredible, and substantially the same experience was repeated with the Westinghouse Company, and then the Wiegand Company decided to market the units directly. Then the same incredibility was encountered in the trade. (R. 172-173.)

The experience at Western Electric Company is related by Mr. Siebs. Mr. Siebs joined Western Electric Company in 1923, and at that time formed the heating and electrical laboratory, for the purpose of endeavoring to better the conditions of the electric heating elements with which Western Electric Company at that time was having great trouble. (R. 156.)

Nevertheless, Mr. Siebs and his associates were not interested in trying the Wiegand units. As Mr. Siebs expresses it (R. 158):

> I was unable to visualize the possibility of a thin sheath, itself having relatively no mechanical strength whatsoever, and of a contour which did not retain the insulating material under compression with the same ease as a round section would, that a heater made and filled with a refractory insulation, subject as these heaters were to bending, twisting, and general distortion under heating and cooling, could possibly retain the granular refractory insulation in anything like useful form for any length of time.

It was the opinion that granular refractory insulation was not feasible in a thin flat sheet metal sheath, or as Mr. Siebs expresses it (R. 158-159):

> At that time our only experience with granular refractory insulation was with the sheathed wire and tubular heaters. These heaters were made with circular sheaths. The insulation was compressed tremendously by swaging the outside sheath down to a smaller section, and even with that relatively ideal mechanical contour and method of retaining the compression that was given by the swaging, we found that they were extremely fragile to use. We received these tubular heaters from the manufacturers in a straight form, they came in straight lengths with terminals on either end, and in order to use them we invariably had to bend them in some form or other to adapt them to the particular use that we wanted to make, and the number that we destroyed in our effort to bend them was so high that we very soon refused to accept any of these heaters in their straight form, or else if we did, we returned them to the manufacturers to have them bent, so that they could take the responsibility of spoiling the heater rather than ourselves. That, of course, led us to be more than skeptical that a heater of the type described by Mr. Tourtelot and Mr. Calhoun could withstand the natural abuse of bending and twisting and warping that these strip heaters are subjected to.

However, the Wiegand Company succeeded in furnishing units for tests, and a Wiegand unit was tested against Cutler-Hammer mica heaters then standard with Western Electric. (R. 159.) The units were of the same rating, but the mica heater at 115 volts and the Wiegand unit at 110 volts. (Exhibit W-81, R. 210-212, offered at R. 159.) Thereby the load or overload on the Wiegand unit at all times was somewhat greater than on the mica heaters.

The units were operated at from 110 to 180 volts, a total of 22 hours, and the mica heater failed. A new mica heater was substituted, against the same Wiegand unit, and the two were operated at 180 volts for 24 hours, and the second mica heater failed. Then the test was continued on the Wiegand unit alone, 137 hours at 268% rating, 211 hours at 298% rating, and 240 hours at 400% rating. (Exhibit W-81, R. 210-212, offered at R. 159.) Western Electric Company adopted the Wiegand units as standard, replacing the mica heaters. (R. 159.)

The witness Magerstadt related the similar experience at Railway Utility Company, as a result of which Railway Utility adopted the Wiegand elements, replacing Westinghouse mica heaters (R. 141-144), and the witness Ledig the similar experience at Majestic Electric Company, as a result of which Majestic adopted the Wiegand elements, and closed their own department in which they had made mica heaters. (R. 145-148.)

These three experiences are typical. (R. 173, 186.)

Certainly the so-called substitution was not obvious to those skilled in the art, and as stated by Judge Learned Hand in *Hookless Fastener Co. v. G. E. Prentice Mfg. Co.*, 68 F. (2d) 940 at 941, the Court is to "look rather to the history of the art than to our own divinations of what was easy and apparent."

Clearly the decision of the Circuit Court of Appeals is in direct conflict with the decision of this Court in *Expanded Metal Company v. Bradford,* 214 U. S. 366 at 381, 29 S. Ct. 652 at 656:

> It may be safely said that if those skilled in the mechanical arts are working in a given field and have failed after repeated efforts to discover a certain new and useful improvement, that he who first makes the discovery has done more than make the obvious improvement which would suggest itself to

a mechanic skilled in the art, and is entitled to protection as an inventor.

Citing *Webster Loom Company v. Elias S. Higgins et al.*, 105 U. S. 580 at 591, 26 L. Ed. 1177 at 1181.

CONCLUSION

It seems that the conflict should be resolved. If the claims are invalid, the invalidity should be established to the benefit of the industry generally, and if the claims are valid, they should be recognized also against respondents.

It seems that the claims are valid, and that the holding of invalidity, and the concepts on which the holding of invalidity is predicated, are in error, and should be corrected.

Because of the general recognition of the patent, any basis for another suit is not likely to occur. *Exhibit Supply Co. v. Ace Patents Corporation,* and two other cases, numbers 154-156, decided February 2, 1942, 62 S. Ct. 513.

Petitioners pray that their petition be allowed.

Respectfully,

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